

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 4, 6-7, 11 and 13 are pending in the application. Claims 1 and 4 are amended; and Claims 5, 8-10 and 12 are canceled by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the outstanding Official Action, Claims 1 and 4-13 were rejected under 35 U.S.C. § 102(e) as anticipated by Trossen et al. (U.S. Patent No. 7,054,643, hereinafter Trossen).

In response to the above-noted rejection, Applicants respectfully submit that amended independent Claims 1 and 4 recite novel features clearly not taught or rendered obvious by the applied references.

Specifically, amended independent Claim 1 recites a radio communication system for performing multicast communication, comprising:

a reception ability value collector configured to collect a reception ability value of each mobile station belonging to a specific multicast group, *wherein the reception ability value defines at least one of a demodulation method, a reception buffer size, a computing processing ability, an error correction method and an interleaving length;*

a transmission method determiner configured to determine a transmission method of transmitting information in accordance with the collected reception ability value;

a transmitter configured to transmit the information to each mobile station using the determined transmission method;
and

a radio resource manager configured to manage available radio resources,

wherein the transmission method determiner determines the transmission method in accordance with the reception ability value and the available radio resources, so that *a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method.*

¹ e.g., specification, p. 8, lines 16-21.

Independent Claim 4, while directed to an alternative embodiment, is amended to recite substantially similar features.

As noted in an exemplary embodiment at p. 8-10 of the specification, the reception availability value specifically defines at least one of the parameters noted above recited in amended independent Claim 1. Using this information, the base station is able to adjust a transmission method to correspond to the mobile station belonging to the multicast group having a lowest reception ability.

Turning to the applied reference, Trossen describes a method and apparatus for transmitting multicast data over a wireless channel. In Trossen, a wireless infrastructure comprising a base station and a node determines a data rate that the at least one wireless terminal participating in the multicast communication can receive reliably and configures a multicast session in accordance with this determined data rate.² The node utilizes measurements provided by the wireless terminal to determine the data rate that is supported by the wireless terminal.

Trossen, however, fails to teach or suggest “a reception ability value collector configured to collect a reception ability value of each mobile station belonging to a specific multicast group, *wherein the reception ability value defines at least one of a demodulation method, a reception buffer size, a computing processing ability, an error correction method and an interleaving length,*” as recited in amended independent Claim 1.

In addressing the previously presented arguments directed to the “reception ability value collector” the outstanding Official Action relies on col. 5, lines 20-43 of Trossen and states that “the SNR that is measured in Trossen is converted to a corresponding maximum data rate that can be supported or received by the mobile terminal, which is a reception ability

² Trossen, Abstract.

value.”³ As noted in the outstanding Official Action, the cited portion of Trossen describes that the wireless terminal (101) periodically reports a measured signal to noise ratio (SNR) or similar quality measure using signaling messages from wireless terminal (101) to base station (105). The node (207) then converts the SNR measurement or a similar quality measure to a corresponding maximum data rate that wireless terminal (101) can support. Trossen then describes that the transmission parameter is adjusted based on this data rate.

However, this “corresponding maximum data rate” is not a “reception ability value” as defined in amended independent Claim 1. Instead, amended independent Claim 1 recites that “the reception ability value *defines* at least one of a demodulation method, a reception buffer size, a computing processing ability, an error correction method and an interleaving length.” Trossen, on the other hand, simply describes converting a received SNR measurement to a corresponding maximum data rate and fails to teach or suggest a reception ability value collector configured to collect a reception ability value that *defines* at least one of the parameters recited in amended independent Claim 1, as noted above. More specifically, neither the SNR or calculated data rate in Trossen could possibly be used to define any of the parameters recited in amended independent Claim 1.

Therefore, Trossen fails to teach or suggest a radio communication system including “a reception ability value collector configured to collect a reception ability value of each mobile station belonging to a specific multicast group, *wherein the reception ability value defines at least one of a demodulation method, a reception buffer size, a computing processing ability, an error correction method and an interleaving length,*” as recited in amended independent Claim 1.

Further, independent Claim 1 recites that “the transmission method determiner determines the transmission method in accordance with the reception ability value and the

³ Outstanding Official Action, p. 2.

available radio resources, so that ***a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method.***” In rejecting this claimed feature, the outstanding Official Action relies on col. 5, lines 20-43, col. 6, lines 4-24, col. 7, lines 60-67 and col. 8, lines 1-13 of Trossen.

These cited portions of Trossen describe the node (207) then converts a SNR measurement or a similar quality measure of a mobile terminal to a corresponding maximum data rate that wireless terminal (101) can support. Then, when a plurality of wireless terminals (161, 162) have approximately equal SNR measurements, the terminals can be grouped together to receive the same multicast layers from the node (207). Thus, the node (207) determines a corresponding maximum data rate for each group, which is formed by a plurality of wireless terminals having approximately equal SNR measurements. Trossen then describes that based on this grouping of terminals, each of the terminals can reliably receive the data.

Trossen, however, fails to teach or suggest that a transmission method is determined “in accordance with the reception ability value and the available radio resources, so that ***a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method.***”

Instead, in Trossen, when the radio propagation conditions between the node (207) and each of the plurality of wireless terminals is equal, the plurality of wireless terminals, which have approximately equal SNR measurements, belong to the same group. Further, in Trossen, the node transmits multicast data using the same data rate (i.e. same transmission method) to the plurality of wireless terminals belonging to the same group (i.e. the plurality of wireless terminals having approximately equal SNR measurements) regardless of the reception ability value (e.g. demodulation method, reception buffer size, a computing processing ability, an error correction method and an interleaving length).

Therefore, in Trossen, when the multicast transmission method by which the mobile station equipped with the better reception ability can receive the multicast data is used, a mobile station equipped with the lower reception ability cannot receive the multicast data. For example, in Trossen, when multicast data is modulated by 16QAM and transmitted to the plurality of terminals belonging to the same group (i.e. the plurality of wireless terminals having approximately equal SNR measurements), a wireless terminal equipped with 16QAM (i.e. a mobile terminal equipped with better reception capability) can receive the multicast data, but a terminal equipped with QPSK (i.e. a mobile station equipped with the lower reception ability) cannot receive the multicast data.

Therefore, Trossen fails to teach or suggest that a transmission method is determined “in accordance with the reception ability value and the available radio resources, so that *a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method*,” as recited in independent Claim 1.

Accordingly, Applicants respectfully request the rejection of Claim 1 (and the claims that depend therefrom) under 35 U.S.C. § 102(e) be withdrawn. For substantially similar reasons, it is also submitted that amended independent Claim 4 (and the claims that depend therefrom) patentably define over Trossen.

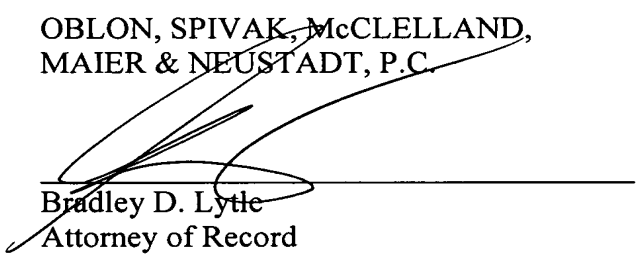
Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1, 4, 6-7, 11 and 13 patentably defines over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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